

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 04004703
PUBLICATION DATE : 09-01-92

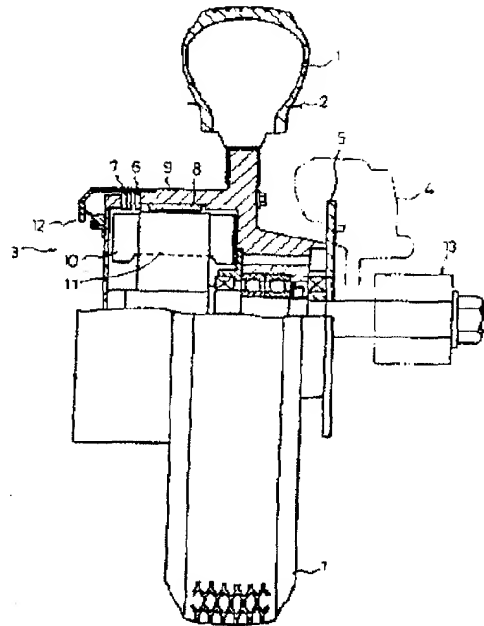
APPLICATION DATE : 18-04-90
APPLICATION NUMBER : 02100190

APPLICANT : NIPPON STEEL CORP;

INVENTOR : KAMIO SUSUMU;

INT.CL. : B60L 15/28 B60K 7/00 B62K 11/12
H02P 6/02

TITLE : BICYCLE



ABSTRACT : PURPOSE: To improve traveling performance on a rough road by fixing a motor to the front wheel, detecting the direction and the speed of a rotor through an optical sensor, thereby controlling the directional and the magnitude of a current to be fed from a motor power supply to the armature of the front wheel.

CONSTITUTION: A rotor section comprising the permanent magnet 8 and the yoke 9 of a DC brushless motor 3 is secured to the front wheel of a bicycle having wheels 2 provided with tires 1. A light reflected on a reflector 6 fixed to a yoke 9 is detected through a photosensor 7 on the fixed side in order to determine the rotational direction and speed of the front wheel which are then fed to a control section (not shown). The control section outputs a signal for regulating the direction and the magnitude of a current to be fed to the coil 10 of an armature 11 on the fixed side, according to a signal from the photosensor 7 or the operational signals of accelerator or brake, thus controlling the current to be fed from a source battery. Since the weight is balanced between front and rear wheels, stabilized traveling of a bicycle is realized even on a rough road.

COPYRIGHT: (C) JPO